

83. (NEW) A method according to claim 81 in which the organic carboxylic acid includes a mono-carboxylic acid.

84. (NEW) A method according to claim 83 in which the anti-corrosive agent includes acetic acid.

85. (NEW) A method according to claim 80 in which the substrate contains metallized copper.

86. (NEW) A method according to claim 80 in which the substrate contains titanium nitride.

87. (NEW) A method according to claim 80 in which the substrate contains aluminum and/or aluminum alloys.

88. (NEW) A method for rinsing metallized semiconductor substrates containing copper with an aqueous medium comprising including in said aqueous medium an amount of acetic acid effective to minimize metal corrosion of the copper.

89. (NEW) A method for rinsing metallized semiconductor substrates containing titanium nitride with an aqueous medium comprising including in said aqueous medium an amount of acetic acid effective to minimize metal corrosion of the titanium nitride.

90. (NEW) A method for rinsing metallized semiconductor substrates comprising: contacting the substrate with an aqueous medium containing one or more anti-corrosive chemical agents wherein the concentration of the anti-corrosive chemical agent or agents is maintained at a controlled level or within a predetermined range, and the substrate is maintained in contact with the chemical agent or agents for a predetermined time.

91. (NEW) A method according to claim 90 in which the anti-corrosive chemical agent includes an organic compound.

92. (NEW) A method according to claim 91 in which the organic compound is an organic carboxylic acid.

93. (NEW) A method according to claim 92 in which the organic carboxylic acid is a mono-carboxylic acid.

94. (NEW) A method according to claim 93 in which the mono-carboxylic acid is acetic acid.

95. (NEW) A method according to claim 90 in which the substrate contains metallized copper.

96. (NEW) A method according to claim 90 in which the substrate contains titanium nitride.

97. (NEW) A method according to claim 90 in which the substrate contains aluminum and/or aluminum alloys.

98. (NEW) A method for rinsing metallized semiconductor substrates comprising;
contacting the substrate with an aqueous rinse medium containing anti-corrosive chemical agent including an organic compound, wherein the amount of the anti-corrosive chemical agent in the aqueous medium is maintained in a controlled manner, at a predetermined concentration or within a predetermined range,
conducting the rinse of step a for a predetermined time, and
then rinsing the substrate with deionized water, or other aqueous media alone.

99. (NEW) A method according to claim 98 in which the organic compound is an organic acid.

100. (NEW) A method according to claim 99 in which the organic acid comprises an organic carboxylic acid.

101. (NEW) A method according to claim 100 in which the organic carboxylic acid comprises a mono-carboxylic acid.

102. (NEW) A method according to claim 101 in which the mono-carboxylic acid comprises acetic acid.

103. (NEW) A method according to claim 98 in which the substrate contains metallized copper.

104. (NEW) A method according to claim 98 in which the substrate contains titanium nitride.

105. (NEW) A method according to claim 98 in which the substrate contains metallized aluminum and/or aluminum alloys.

106. (NEW) A method according to claim 98 further comprising selecting the anti-corrosive chemical agent in accordance with the metal or metals comprising the semiconductor substrate, to minimize corrosion of said metal or metals resulting from the rinsing.

107. (NEW) A method according to claim 98 wherein the two rinsing steps are carried out in the same container.

108. (NEW) A method according to claim 98 further comprising drying the semiconductor substrate, subsequent to the second rinse step utilizing a drying vapor.

109. (NEW) A method according to claim 108 in which the drying vapor is one that condenses on the surface of the substrate and reduces the surface tension of any residual water, causing said residual water to flow off of the surface.